Monthly Progress Report
Corrective Measures Study (CMS) for Potential Release Site (PRS) 16-021(c)
November 2000

This report summarizes Los Alamos National Laboratory (LANL) activities completed during November of fiscal year (FY) 2001 on the CMS for PRS 16-021(c), the 260 outfall. Both the activities described in the CMS plan ([LA-UR-98-3918)], which was submitted to the New Mexico Environment Department-Hazardous Waste Bureau [NMED-HWB] on 9/30/98, and approved by NMED-HWB on 9/8/99), and other related activities are described herein.

Description of Activities and Contacts

High Performing Team (HPT) Activities – The 260 HPT did not meet during November 2000.

The next meeting is scheduled for Monday, December 4, 2000. Agenda items will include evaluations of CMS data, bench and pilot results, temporary authorization, and waste disposal options for the Interim Measure.

RCRA Facility Investigation (RFI) Report and CMS Plan– No new activities occurred during this reporting period.

Best Management Practices (BMPs)– BMPs were inspected daily during on-going fieldwork. During site restoration at the 260 outfall, reseeded areas were covered with straw. No BMP repairs were required this month.

CMS Hydrogeologic Investigations–CMS hydrogeologic investigations include ongoing Phase II RFI sampling as well as continuing investigations outlined in the CMS plan.

The ongoing Phase II RFI sampling program included collecting samples at Burning Ground, Sanitary Waste Consolidation System (SWSC) and Martin springs every other day for bromide, other anions, and stable isotopes. Data from the spring and well dataloggers was downloaded weekly. No new bromide breakthrough has been observed in samples to date. The flow in the springs and in Cañon de Valle decreased during November, following the peak in October that was due to the significant precipitation observed during that month.

The wells, both alluvial and deep, were checked weekly for both presence and level of water. The five alluvial wells in Canon de Valle and the three alluvial wells in Martin spring canyon contained water. Intermediate-depth borehole 16-2665, which is located at the head of Martin Spring Canyon, contained water during the first half of the month, but had dried up by the end of the month. The Canon de Valle hydrologic system appeared to

be wetter during the first half of the month. High-flow stream profile samples were collected. Monthly and weekly flow-integrated samples were collected.

In November, 7 samples for stable isotope analysis from precipitation events were collected from the on-site rain gauge and archived for analysis.

Site restoration and demobilization activities were completed at CdV-R-15-3, except for disposal of wastes, which is anticipated during December.

Ecological Risk Pilot–

No activities.

CMS Bench and Pilot Studies–Bench and pilot studies continued in collaboration with the Innovative Treatment Remediation Demonstration (ITRD) Program. The ITRD HE program is focused on two DOE sites: LANL and Pantex. Six studies are now ongoing under the auspices of ITRD, all of which may benefit the PRS 16-021(c) CMS:

1. A study of the passive barrier technology of Stormwater Management, Inc., which is potentially useful for removing HE and barium from waters.
2. A study of chemical treatment of HE-contaminated soil using zero-valent iron (ZVI). The LANL portion of this study has been completed.
3. A study of in situ anaerobic bioremediation of HE using gas-phase carbon additions.
4. A study of ex situ anaerobic bioremediation of HE-contaminated soils using the W. R. Grace process, which combines anaerobic bioremediation with a ZVI treatment.
5. A study of HE composting. Amendments appropriate to northern New Mexico are being tested on both clean and contaminated soils.
6. A study of immobilization of barium-contaminated sediments from Cañon de Valle.
7. Phytoremediation studies in Cañon de Valle.

The HE-composting pilot study using clean and TA-16-260 soils was continued. A building at TA-11 was obtained in an attempt to solve the problems thought to be due to diurnal temperature variation. Preliminary results suggest that this problem has been solved. HE levels in soils appear to have decreased significantly in all compost mixes, based on screening HE analyses.

ITRD personnel visited the TA-16 site to discuss the engineering design for the Stormwater Management pilot deployment. The Stormwater units have been delivered to the site. The 401/404 permit was approved by the NMED and the Corps of Engineers.

Interim Measure (IM) –

Activities at the TA-16-260 IM were limited during November because significant snowfall kept the field team from working during the latter part of the month.

The primary IM field activities were site restoration and demobilization tasks including: surveying of screening and confirmatory sampling localities, seeding of the pond banks and other disturbed localities, and decontamination and demobilization of equipment.

Public and Stakeholder Involvement– No activities during this reporting period.

Percentage of CMS Completed

LANL estimates 67% of the CMS has been completed to date. Note that this percentage does not reflect the deep wells that will be drilled per the CMS plan addendum.

Problems Encountered/Actions to Rectify Problems

General Problem (1) The Cerro Grande fire has severely impacted the 260 RFI/CMS activities. These problems have been discussed in detail in previous monthly reports.

Action to Rectify General Problem (1): LANL will work closely with NMED through the HPT to mitigate the effects of the Cerro Grande fire.

CMS Hydrogeologic Investigations

Problem (1): Questions relating to the quality of data from well R-25 remains a significant concern to the TA-16-260 team.

Action to Rectify Problem (1): LANL will evaluate the data from the quarterly sampling of the R-25 well to evaluate its reliability.

Problem (2) The autosamplers in the three springs have operated poorly since the Cerro Grande fire. There are frequent distributor-arm-fault interruptions causing the sampler to cease operation. In addition, spurious noise generated by the ultrasonic flow loggers continues to cause problems with accurately metering spring flow.

Action to Rectify Problem (2): The contractor field team maintains the autosamplers as needed. These problems are currently handled during a sampling period by intensively managing the samplers manually. Solutions to the technical problems are being pursued.

CMS Bench and Pilot Studies

None.

IM

None.

Key Personnel Issues

None.

Projected Work for December 2000

RFI Report and CMS Plan

- No work is scheduled for this month.

BMPs

- Inspection of existing BMPs following significant precipitation events will continue.

CMS Hydrogeologic Investigations

- Maintenance of autosamplers
- Continued bromide sampling of springs
- Checking for levels and presence of water in alluvial and deep wells.
- Sampling of flow-integrated autosamplers
- Continued precipitation monitoring and sampling for stable isotopes.
- Data analysis
- Quarterly sampling at CdV-R-15-3
- Quarterly sampling of springs, seeps, and wells

Ecological Risk Pilot

- No work scheduled.

CMS Bench and Pilot Studies

- Demobilization of composting and Daramend (W.R. Grace) tests on HE-bearing materials, because the studies have been completed.
- Preparation for deployment of Stormwater Management units

IM

- Site surveying

- Data analysis and preparation for completion of IM Report
- Waste management

Public and Stakeholder Involvement

No activities planned.